

What is claimed is:

1. A hologram display comprising:
  - a projector;
  - a hologram screen; and
  - at least one filter arranged between the projector and the hologram screen, for absorbing light having a wavelength at which the diffraction efficiency in the spectral distribution characteristic is peak in a specific wavelength area.
2. The hologram display of claim 1, wherein a projected beam from the projector and a reproduced beam from the hologram screen have a color difference  $\Delta u/v$  that is equal to or smaller than 0.03.
3. A hologram screen comprising:
  - a hologram element for diffracting a projected beam from a projector; and
  - a light scattering element having a scattering angle of five degrees or larger.
4. The hologram screen of claim 3, wherein the light scattering element is arranged on the projector side.
5. The hologram screen of claim 3, wherein the light scattering element is arranged opposite to the projector.
6. The hologram screen of claim 3, wherein the light scattering element scatters a projected beam whose incident angle is within a specific range.
7. The hologram screen of any one of claims 4 and 5, wherein the light scattering element scatters a projected beam whose incident angle is within a specific range.
8. The hologram screen of claim 3, wherein the vertical transmittance of the light scattering element is within the range of 30% to 100%.
9. The hologram screen of claim 4, wherein the vertical transmittance of the light scattering element is within the range of 30% to 100%.

10. The hologram screen of claim 6, wherein the vertical transmittance of the light scattering element is within the range of 30% to 100%.

5 11. The hologram screen of claim 7, wherein the vertical transmittance of the light scattering element is within the range of 30% to 100%.

12. The hologram screen of claim 3, wherein the light scattering element scatters an incident beam over an angle of  $\theta$  that is defined as follows:

10 
$$\sin^{-1}\{\sin\theta_i - \lambda_1/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\} \leq \theta$$
$$\leq \sin^{-1}\{\sin\theta_i - \lambda_2/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\}$$

where  $\lambda_0$  is a recording wavelength used to make the hologram element,  $\lambda_1$  is 380 nm,  $\lambda_2$  is 780 nm (visible light ranging from 380 nm to 780 nm),  $\theta_r$  is an incident angle of a reference beam used to make the hologram  
15 element,  $\theta_o$  is an incident angle of an object beam used to make the hologram element, and  $\theta_i$  is an exiting angle of a diffracted beam emanating from the hologram element.

13. The hologram screen of any one of claims 8 and  
20 10, wherein the light scattering element scatters an incident beam over an angle of  $\theta$  that is defined as follows:

$$\sin^{-1}\{\sin\theta_i - \lambda_1/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\} \leq \theta$$
$$\leq \sin^{-1}\{\sin\theta_i - \lambda_2/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\}$$

25 where  $\lambda_0$  is a recording wavelength used to make the hologram element,  $\lambda_1$  is 380 nm,  $\lambda_2$  is 780 nm (visible light ranging from 380 nm to 780 nm),  $\theta_r$  is an incident angle of a reference beam used to make the hologram element,  $\theta_o$  is an incident angle of an object beam used  
30 to make the hologram element, and  $\theta_i$  is an exiting angle of a diffracted beam emanating from the hologram element.

14. The hologram screen of claim 9, wherein the light scattering element scatters an incident beam over an angle of  $\theta$  that is defined as follows:

35 
$$\sin^{-1}\{\sin\theta_i - \lambda_1/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\} \leq \theta$$
$$\leq \sin^{-1}\{\sin\theta_i - \lambda_2/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\}$$

where  $\lambda_0$  is a recording wavelength used to make the  
hologram element,  $\lambda_1$  is 380 nm,  $\lambda_2$  is 780 nm (visible  
light ranging from 380 nm to 780 nm),  $\theta_r$  is an incident  
angle of a reference beam used to make the hologram  
5 element,  $\theta_o$  is an incident angle of an object beam used  
to make the hologram element, and  $\theta_i$  is an exiting angle  
of a diffracted beam emanating from the hologram element.

15. The hologram screen of claim 7, wherein the  
light scattering element scatters an incident beam over  
10 an angle of  $\theta$  that is defined as follows:

$$\sin^{-1}\{\sin\theta_i - \lambda_1/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\} \leq \theta$$
$$\leq \sin^{-1}\{\sin\theta_i - \lambda_2/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\}$$

where  $\lambda_0$  is a recording wavelength used to make the  
hologram element,  $\lambda_1$  is 380 nm,  $\lambda_2$  is 780 nm (visible  
15 light ranging from 380 nm to 780 nm),  $\theta_r$  is an incident  
angle of a reference beam used to make the hologram  
element,  $\theta_o$  is an incident angle of an object beam used  
to make the hologram element, and  $\theta_i$  is an exiting angle  
of a diffracted beam emanating from the hologram element.

20 16. The hologram screen of claim 11, wherein the  
light scattering element scatters an incident beam over  
an angle of  $\theta$  that is defined as follows:

$$\sin^{-1}\{\sin\theta_i - \lambda_1/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\} \leq \theta$$
$$\leq \sin^{-1}\{\sin\theta_i - \lambda_2/\lambda_0 \cdot (\sin\theta_o - \sin\theta_r)\}$$

25 where  $\lambda_0$  is a recording wavelength used to make the  
hologram element,  $\lambda_1$  is 380 nm,  $\lambda_2$  is 780 nm (visible  
light ranging from 380 nm to 780 nm),  $\theta_r$  is an incident  
angle of a reference beam used to make the hologram  
element,  $\theta_o$  is an incident angle of an object beam used  
30 to make the hologram element, and  $\theta_i$  is an exiting angle  
of a diffracted beam emanating from the hologram element.